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(71) Applicant: Johnson & Johnson Industria e  
Comercio Ltda.  
05501-030 Sao Paulo, SP (BR)

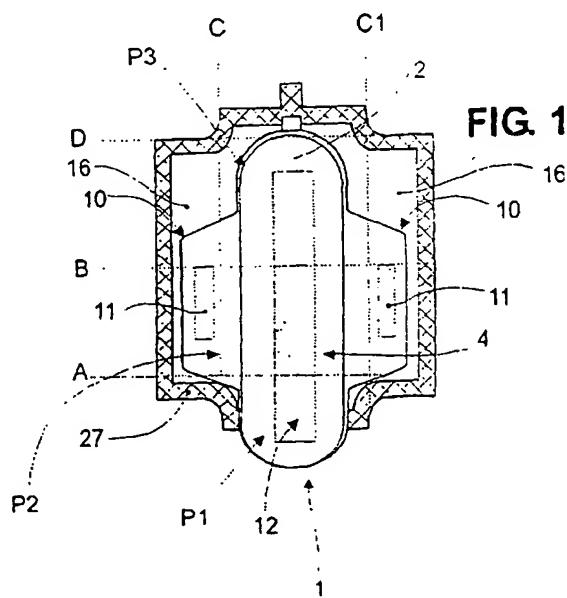
(72) Inventor: Costa, Rogerio  
485 Lorena - SP (BR)

(74) Representative: Mercer, Christopher Paul  
Carpmaels & Ransford  
43, Bloomsbury Square  
London WC1A 2RA (GB)

## (54) An absorbent article

(57) This invention refers to a sanitary napkin provided with a single enveloping sheet that serves to accommodate the absorbent before and after use, so as to obtain a package that prevents leakage of any fluid out of the absorbent. This objective is achieved by means of a sanitary napkin (1) comprising a liquid-permeable front layer (4), a liquid-impermeable back layer (5), an absorbent body (2) arranged between the front

(4) and the back (5) layers, an enveloping sheet (16), flaps (10) extending laterally, said absorbent comprising adhesive regions (11,12) on the back layer (5), said absorbent (1) comprising an enveloping sheet (16) suitable to envelop the absorbent (1) totally, said enveloping sheet (16) comprising protection sheet (15,17) suitable to be adhered to the adhesive regions (11,12). The enveloping sheet (16) totally envelops the absorbent (1) with the flaps (10) open.



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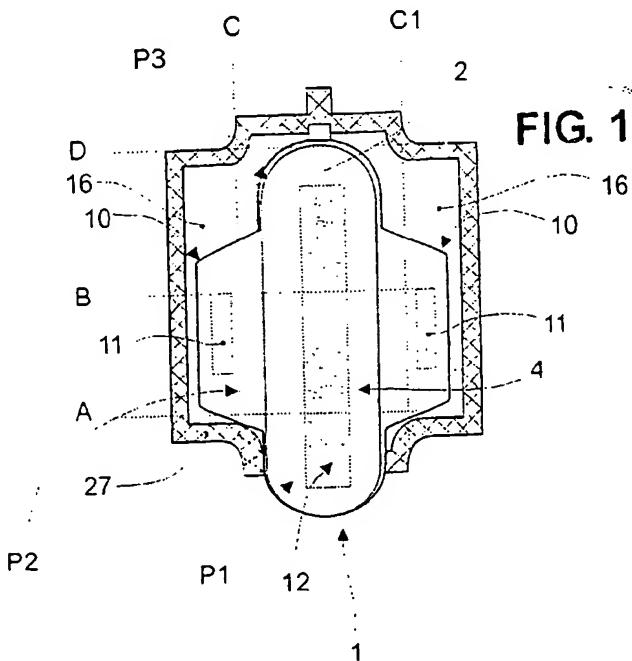
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absorbent is that, after it has been released from said envelope, the flaps still remain fixed to each other or to the absorbent body itself. It is then necessary to release these flaps so as to make them available for use.

### Objectives of the Invention

**[0017]** One of the objectives of the present invention is to provide an intimate absorbent provided with an enveloping sheet suitable for accommodating and enveloping said absorbent, the enveloping sheet being shaped and folded so as to offer also the possibility that the wearer can release the absorbent from the package in a single step and, consequently, have minimum contact with the front layer of the absorbent.

**[0018]** This objective is achieved by means of a feminine sanitary napkin comprising a liquid-permeable front layer, a liquid-impermeable back layer provided by adhesive regions, an absorbent body arranged between the front and back layers, flaps extending laterally, and an enveloping sheet, characterized in that said enveloping sheet totally envelopes the absorbent folded over itself, still with the flaps open.

**[0019]** In the prior art there are packages similar to the that of the invention. However, the absorbent body and the flaps are folded over each other, and only then they are enveloped by the enveloping sheet. These are embodiments that require great complexity in locating the protection sheets in the adhesive regions, and in folding the absorbent article. According to the present invention, the total envelopment occurs with the side flaps open (regardless of number of flaps), with less complexity in the operation of assembling the article and greater ease when opening it. The enveloping sheet of this invention tends to be larger than those of the prior art, but for this very reason it brings more safety in use for disposing used articles.

**[0020]** In the sense employed herein, the mention of these adhesive regions in the liquid-impermeable back layer also comprises the back of the side flaps, regardless of their being formed from the superposition of the front and back layers or not.

**[0021]** Preferably, even if the absorbent article of the present invention has been totally enveloped by the enveloping sheet, it may undergo later folds such as those of the flaps over the already folded absorbent, thus decreasing the total size of the article in the final configuration.

### Description of the Drawings

**[0022]** The present invention will now be described in greater detail with reference to the accompanying drawings, which represent a non-limitative alternative of embodiment, in which:

- figure 1 is a view of the front face of the sanitary napkin fixed to an enveloping sheet, according to a

preferred embodiment of the present invention;

- figure 2 is a view of the pack face of the sanitary napkin illustrated in figure 1;
- figure 3 is a view of the front face of the sanitary napkin illustrated in figure 1, which is partly folded;
- figure 4 is a perspective view of said absorbent showing a step of folding the absorbent and of the enveloping sheet;
- figure 5 is a perspective view of the enveloping sheet containing the absorbent, illustrating another folding step;
- figure 6 is a view of the front face of the enveloping sheet partly folded;
- figure 7 is a view of the front face of the enveloping sheet completely folded, enveloping the sanitary napkin;
- figure 8 is a view of the front face of the enveloping sheet with the respective protection sheets;
- figure 9 is a perspective view of the enveloping sheet illustrated in figure 8; and
- figure 10 is a perspective view of the absorbent detached from the enveloping sheet.

### Detailed Description of the Figures

- [0023]** As illustrated in figures 1 - 7 and 10, the sanitary napkin 1 comprises a substantially planar body of an absorbent material 2, enveloped by a permeable front layer 4, suitable for entering in close contact with the pelvic region of the wearer and by an impermeable back layer 5 facing the respective panties (not shown).
- [0024]** Said absorbent 1 further comprises flexible flaps 10, which extend laterally as a prolongation of the front 4 and back 5 layers, or a prolongation of only one of them, or else separated from these layers 4 and 5, but associated to the absorbent 1. In the example described, the absorbent 1 has only two flaps 10, but it could have 4 or more of them. As illustrated in figure 10, each of the pack faces of these flaps 10 has a first adhesive region 11 allowing one to fix it to the crotch portion of the panties. A second adhesive region 12 is provided in a longitudinal central portion of the back layer 5 of the absorbent 1.
- [0025]** The material used to achieve the adhesive regions 11 and 12 is known to those skilled in the art, being usually a permanent touch adhesive or PSA ("pressure sensitive adhesive"). As already described, this material is applied in the form of a single strip, multiple strips, points or any other adequate configuration.

face suitable for fixing said panel P5 during the final step of folding the absorbent 1 in conjunction with the sheet 16.

[0044] It is important to mention that the invention considers other alternatives in which the absorbent is longer than the absorbent 1 illustrated in the example, in addition to the possibility of having more flaps. In this alternative equivalent embodiment, with respect to the example mentioned, the body of the absorbent may have more folds over itself, and once it is totally enveloped by the enveloping sheet, it can be folded more times, longitudinally and/or transversely, in order to acquire a smaller volume, if desired, more adequate to the use aimed at.

[0045] When there is the need for carrying the absorbent 1, the wearer can accommodate each of said absorbents 1 individually in her bag, for instance, without impairing the hygiene of said absorbent 1, since the latter is protected by the enveloping sheet 16.

[0046] When the wearer needs to use the absorbent 1, she should unfold the enveloping sheet 16, which envelopes said absorbent 1, by following these steps:

[0047] If the enveloping sheet 16 is provided with said projection 20, the wearer should first release the latter, in order to follow the steps of unfolding said sheet 16. Once said projection 20 has been released, the wearer should unfold the panels P5 and then the panels P4. By opening the panels P3 and P1 afterwards the absorbent 1 will remain available to be released from the sheet 16 (see figure 1). At this point, the absorbent 1 still remains fixed to the sheet 16 by the adhesive regions 11 and 12, which are fixed to the protection sheets 17 and 15. Optionally, in order for the absorbent 1 to be released from said sheet 16, a tab 22 is optionally provided, fixed to the impermeable back layer, or at any other point of the upper end portion of the absorbent 1. Said tab 22 is a strip of any material whatever, for example, non-woven fabric, plastics, paper, combinations thereof, etc., in the form of a strip, strap or any other that enables the wearer to pull the absorbent 1 out of the enveloping sheet 16. By the tab 22 the wearer can release the absorbent 1 from the sheet 16 with a single movement and having minimum contact with the permeable front layer 4, whereby the latter remains clean. The wearer can also release the absorbent 1 from the sheet 16 through the patent P1, which is not fixed directly to said sheet 16.

[0048] When the absorbent 1 is separated from the enveloping sheet 16, the protection sheets 15 and 17 remains fixed to the sheet 16, exposing the adhesive regions 11 and 12 to be glued to the panties. According to previous techniques, at this point the flaps 10 still remain fixed to each other or to the body of the absorbent 1 itself, which requires an additional step and causes the wearer to enter in contact with the front layer 4, thus impairing the hygiene of the absorbent 1.

[0049] After releasing the absorbent from the sheet 16, the wearer can keep said sheet 16 for enveloping the absorbent 1 later after it has been used. Since the

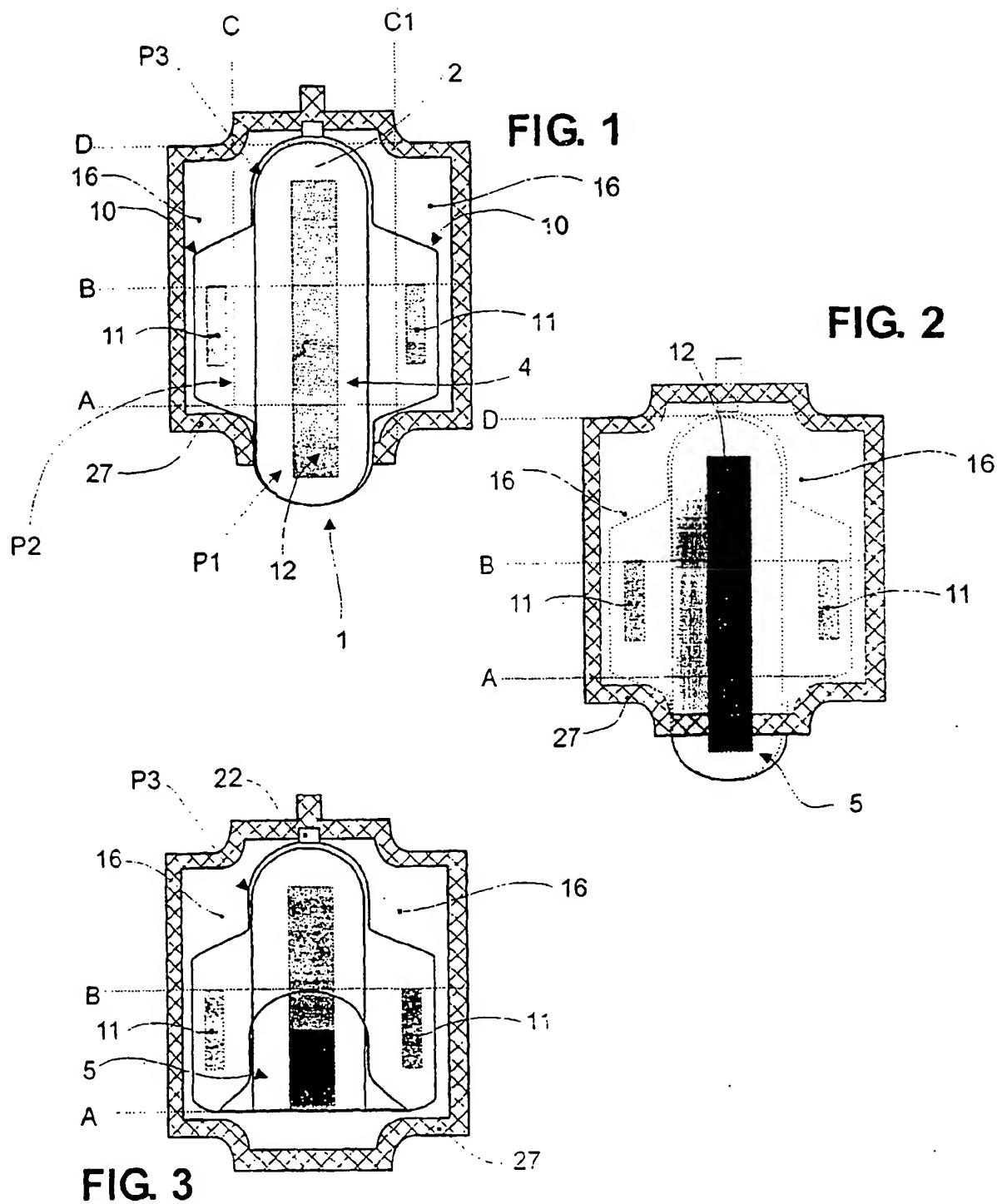
enveloping sheet 16 is manufactured from an impermeable material, the absorbent 1 may be enveloped even after use, without the risk of leakage of fluid contained in the absorbent body 2.

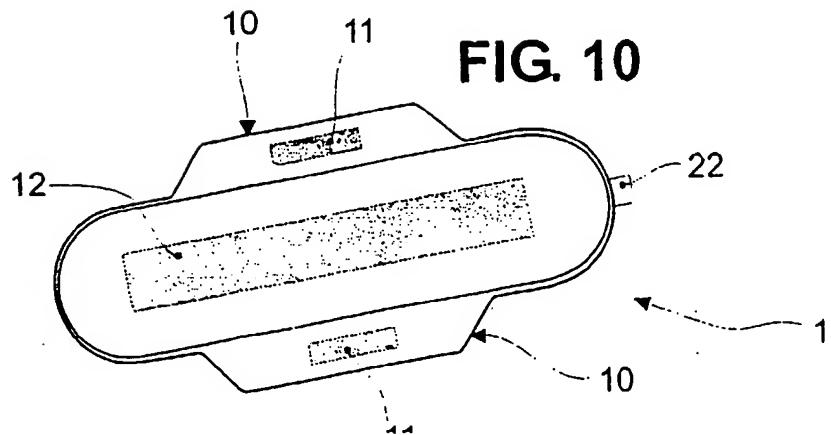
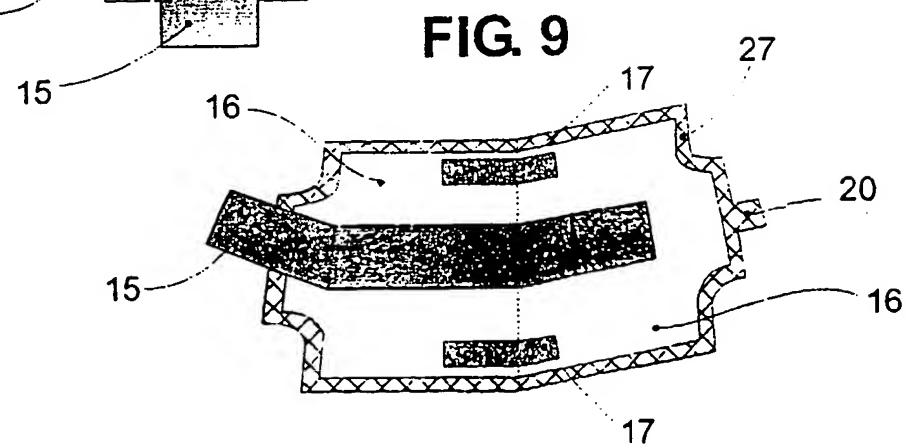
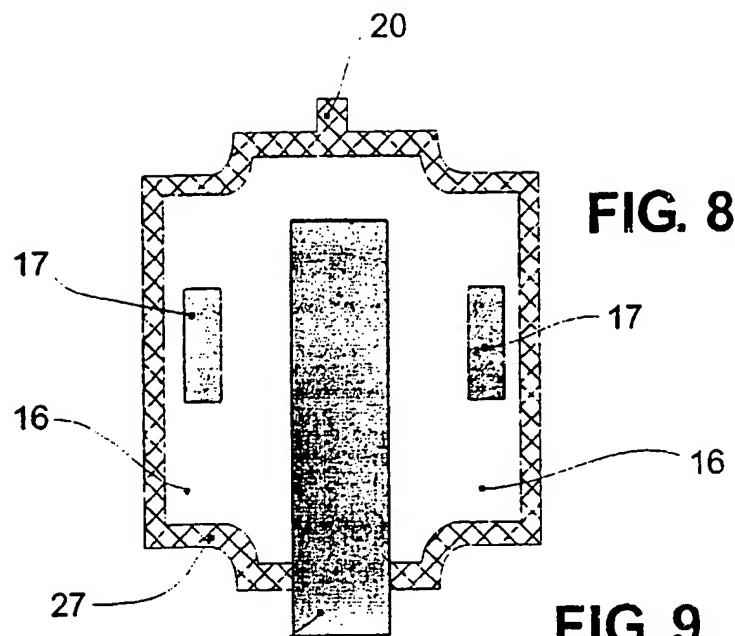
5 [0050] Said tab 22 can be used for helping the wearer when the latter needs to release the absorbent 1 from the panties right after use of the absorbent 1, and also as an aid for handling the latter and throwing it away, or else for helping the wearer to envelope said absorbent 1 with the sheet 16.

10 [0051] A preferred embodiment having been described, it should be understood that the scope of the present invention embraces other possible variations, being limited only by the contents of the accompanying 15 claims, which include the possible equivalents.

### Claims

- 20 1. An absorbent article (1) comprising:
  - a liquid-permeable front layer (4);
  - a liquid-impermeable back layer (5), provided with adhesive regions (11,12);
  - an absorbent body (2) arranged between the front (4) and the back (5) layers;
  - flaps (10) extending laterally;
  - an enveloping sheet (16);
 said absorbent being characterized in that said enveloping sheet (16) totally envelopes the absorbent (1) folded over itself, still with the flaps (10) open.
- 25 2. An absorbent article according to claim 1, characterized by comprising additional folds, preferably of the flaps (10), already enveloped by the enveloping sheet (16), folded over the already folded absorbent (1).
- 30 3. An absorbent article according to claim 1, characterized by comprising at least one tab (22) fixed to an end portion of said absorbent (1).
- 35 4. An absorbent article according to claim 1, characterized in that it comprises a folding line (A) provided transversely in a lower portion of said absorbent (1), said absorbent (1) and the sheet (16) comprise a folding line (B) in a substantially middle and transverse portion of the absorbent (1), the flaps (10) and the enveloping sheet (16) comprise the folding lines (C,C') provided longitudinally with respect to said absorbent (1), the sheet (16) comprises a folding line (D) provided transversely in an end portion.
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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 30 2911

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
 The members are as contained in the European Patent Office EDP file on  
 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

10-07-2000

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